

February 2016

Occasional Paper

The Islamic State's Diminishing Returns on Twitter:
How suspensions are limiting the social networks
of English-speaking ISIS supporters

J.M. Berger and Heather Perez



Program on
Extremism

Program on Extremism

The Program on Extremism at George Washington University provides analysis on issues related to violent and non-violent extremism. The Program spearheads innovative and thoughtful academic inquiry, producing empirical work that strengthens extremism research as a distinct field of study. The Program aims to develop pragmatic policy solutions that resonate with policymakers, civic leaders, and the general public.

About the Authors

J.M. Berger is a fellow with George Washington University's Program on Extremism. He is a researcher, analyst, and consultant, with a special focus on extremist activities in the U.S. and use of social media. Berger is co-author of the critically acclaimed *ISIS: The State of Terror* with Jessica Stern and author of *Jihad Joe: Americans Who Go to War in the Name of Islam*, the definitive history of the U.S. jihadist movement. Berger publishes the website Intelwire.com and has written for Politico, The Atlantic, and Foreign Policy, among others. He was previously a non-resident fellow with The Brookings Institution, Project on U.S. Relations with the Islamic World, and an associate fellow with the International Centre for the Study of Radicalisation.

Heather Perez has worked as a law enforcement analyst in Central Florida for over 15 years. Her current focus is identifying emerging threats and trends from propaganda relating to Foreign Terrorist Organizations (FTOs) and she has done extensive work on the use of social media by FTOs. Perez was part of the research team for the Analysis Paper: "The ISIS Twitter Census – Defining and describing the population of ISIS supporters on Twitter" by J.M. Berger and Jonathan Morgan, published by The Brookings Institution's Project on U.S Relations with the Islamic World in March 2015. Perez was selected as the National Fusion Center Employee of the Year in November 2015, receiving the award from the DHS Undersecretary of Intelligence and Analysis. Additionally, Perez received an award for "Excellence in the Field of Analysis" from the National Fusion Center Association in 2011 and she was the recipient of an FBI Director's Commendation in May 2012.

The views expressed in this paper are solely those of the author, and not necessarily those of the Program on Extremism, the George Washington University, or the U.S. government.

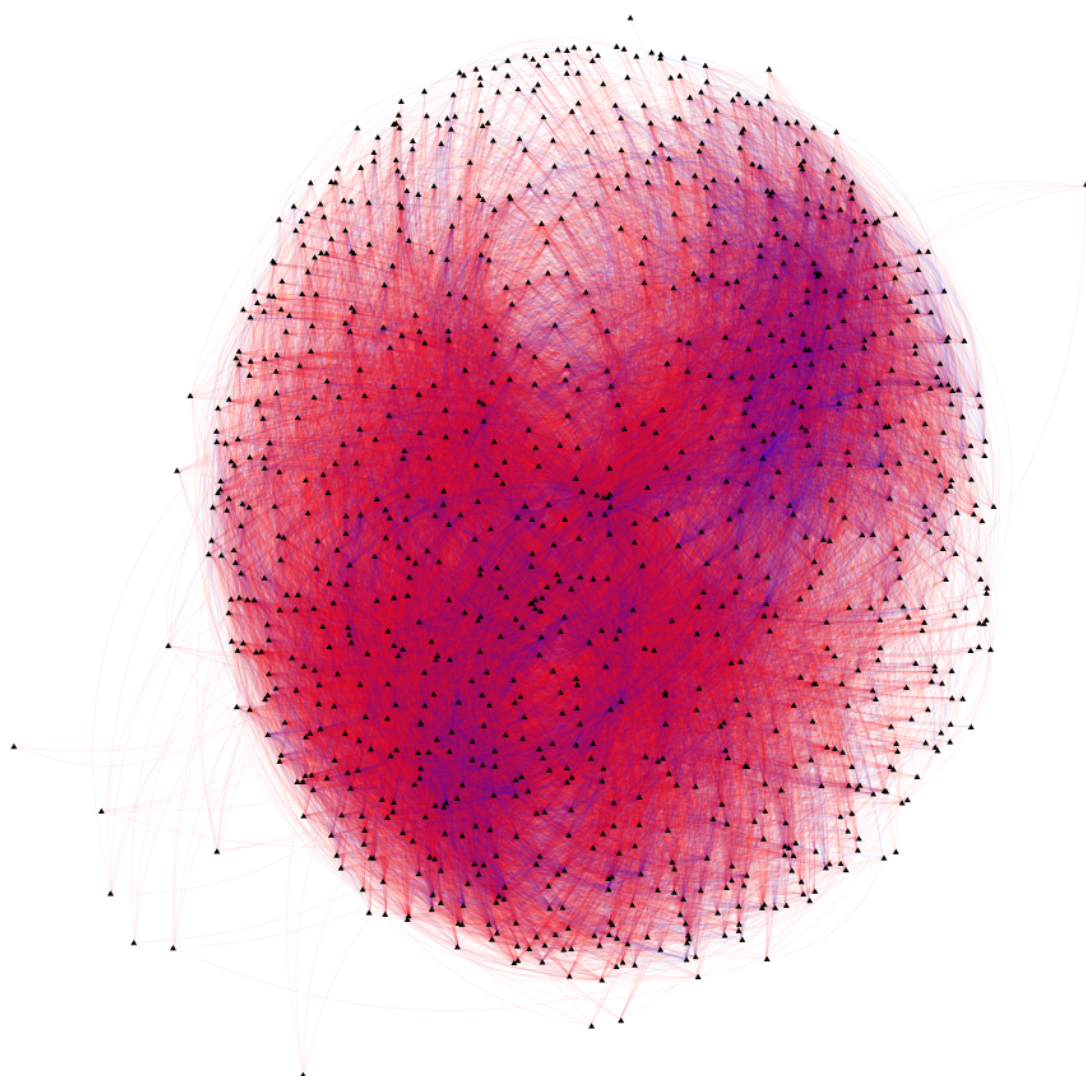


Figure 1. Following relationships among members of the Baqiya Shoutout list; reciprocal follows are indicated by blue lines, one-way by red

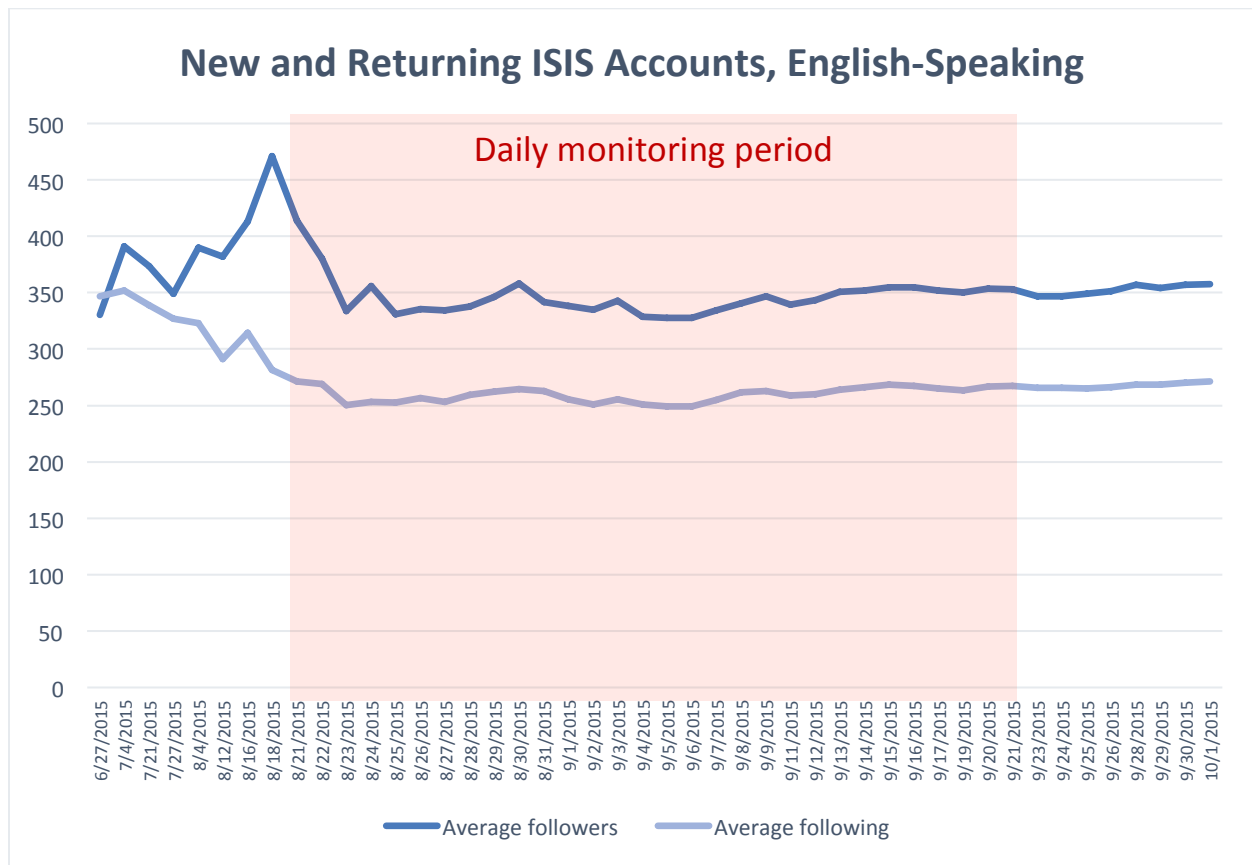


Figure 2. Average friends and followers for monitored ISIS supporter on Twitter, June through October 2015

Abstract

Since late 2014, Islamic State of Iraq and Syria (ISIS) social networks on Twitter have been subjected to periodic account suspensions. In a study of metrics for a network of English-language ISIS supporters active from June to October 2015, suspensions held the size and reach of the overall network flat, while devastating the reach of specific users who have been repeatedly targeted.

By analyzing a list of English-speaking ISIS adherents, we found:

- The number of readily discoverable English-speaking ISIS supporters on Twitter is relatively small, usually fewer than 1,000 accounts.
- Extending the discovery process using advanced social network analysis produced a network of fewer than 3,000 accounts at any given time.
- ISIS English-language social networks are extremely insular, meaning users mostly follow and interact with each other.
- The number of users in the network who are based in Iraq and Syria appears to have declined over time, partly because of suspension activity, but also because of operational security concerns within ISIS and the deaths of some prominent Syria-based network participants.
- The average number of Twitter followers any given ISIS supporter could expect was 300 to 400. Average follower counts were periodically reduced by aggressive waves of suspensions. However, under typical conditions the average remained flat, as seen over a 30-day period beginning in late August, during which relatively few suspensions took place.
- Over time, individual users who repeatedly created new accounts after being suspended suffered devastating reductions in their follower counts.
- Network and individual declines persisted even when suspension pressure eased, suggesting that suspensions diminish activity in ways that extend beyond the simple removal of accounts.
- The amount of pro-ISIS content available on Twitter was also limited by suspensions, since all of a user's tweets are typically deleted when his or her account is suspended.
- ISIS supporters have deployed several countermeasures in an effort to offset the negative effects of suspensions.
- Countermeasures include the use of applications and simple hacking techniques to quickly create new accounts for users who have been suspended, as well as elaborate tactics to rebuild follower networks. Some of these approaches are sophisticated, but they have had only limited benefits.
- ISIS supporters have also explored the use of other social media platforms as a supplement to Twitter, but they feel that a robust presence on Twitter and Facebook is integral to their recruitment and propaganda efforts, and continue returning to those platforms despite challenges.

Our analysis was based on a list of accounts maintained and promoted by ISIS supporters on Twitter. The list was primarily billed as a resource for finding other ISIS supporters, but it included some non-supporter accounts, and the user who maintained the list did not follow all of the listed accounts.

User and Suspension Metrics

Methodology and Caveats

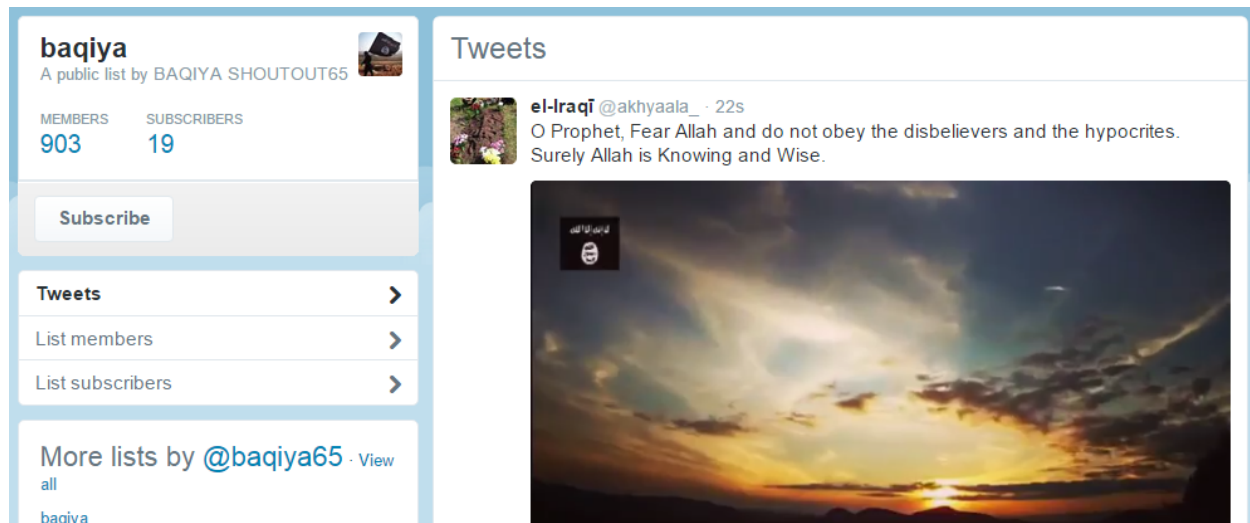


Figure 3. A Twitter account belonging to the “Baqiya Shoutout” user

We collected data from a list of accounts supportive of the Islamic State of Iraq and Syria (ISIS) maintained by a user identifying himself or herself as “Baqiya Shoutout.” *Baqiya* is Arabic for “remaining,” and it is a common slogan used by ISIS supporters online; “shoutout” refers to the process of publicizing new accounts or users who have returned from suspension.

The list was monitored intermittently beginning in June 2015, and daily from August 21 to September 21, during which period it was typically composed of more than 1,000 accounts, not all of which were ISIS supporters.

The list was compiled manually by the Baqiya Shoutout user, a prolific and highly motivated ISIS social media activist whose online activity was devoted primarily to network-building. As such, we believe the list reflects an approximate ceiling for the number of English-language accounts discoverable by supporters using manual searching and social networking. The actual number of English-language ISIS-friendly accounts is higher, as will be discussed below.

Some important caveats attend to this data:

- Baqiya Shoutout was not especially discriminating about determining if a list member supported ISIS and some accounts on the list, particularly those with large follower counts, clearly opposed ISIS. For this analysis, we removed listed accounts with more than 9,500 followers, none of which overtly supported ISIS and some of which clearly did not.
- Although the list was dominated by English-speakers, not all of the accounts tweeted primarily or exclusively in English. A significant number of accounts were observed to tweet in both English and Indonesian, as discussed below. Users generally understood the list to be focused on English.

- The list was collected at most once per day. In some cases, a user was suspended multiple times in between collections. For purposes of this study, suspensions were documented once per day. During the daily monitoring period, the list composition remained largely the same, and most accounts removed from the list during that period had been suspended. A relatively small number of users may have voluntarily terminated their own accounts, but this activity was rarely observed. On occasions when the list had to be manually rebuilt, the Baqiya Shoutout user did not always include all of the accounts from the preceding list.

The user maintaining the list was also subject to suspension and repeatedly created new accounts using the handle “baqiya” and a serial number to indicate successive accounts. Baqiya Shoutout stopped updating the list on September 17, at which point the user also stopped tweeting. The user later returned, but was aggressively targeted for suspension and has not maintained a durable presence on Twitter since. One final snapshot was captured on October 1, 2015.

In the earlier part of the monitoring period, Baqiya Shoutout reconstituted the list after his or her own suspension by manually finding and adding users. When the user returned from suspension on August 25, the list was immediately reconstituted at its full size and thereafter consistently returned from suspension intact, suggesting the user had started to employ a Twitter application (or some other method) to save and relist members automatically. Such apps are available commercially, but can also be coded with relative ease.

Around the same time, the user expanded the size of the list significantly, from about 600 or 700 accounts to more than 1,000. Some of the users added during this expansion were not overt ISIS supporters and, in some cases, were clearly opposed to ISIS.

When Baqiya Shoutout returned from suspension after the end of the study period, the user had rebuilt the list manually, suggesting he or she had lost access to the app. Further, the new list contained fewer than 1,000 accounts. The user was subjected to heavy suspension pressure and stopped maintaining the list soon thereafter.

On January 11, 2016, a Twitter user announced that the list would now be maintained on an alternate platform, Telegram, but the new channel was suspended within hours. Since then, references to Baqiya Shoutout on Twitter have increasingly been dominated by anti-ISIS activists, who use the phrase to target accounts they wish to report to Twitter for abuse.

Because it was developed organically, the Baqiya Shoutout list is far from complete and betrays the biases of the list-maker, particularly with respect to personalities the list-maker knows and likes. Users who interacted with Twitter using an Indonesian-language interface made up a minimum of 15.6% of the list as of early October 2015. While social network analysis suggests that English- and Indonesian-speaking networks have a high-level of overlap when examined more broadly, the composition of the Baqiya Shoutout list may reflect the user’s location or native language set. Indonesian-speaking users have been observed to be heavily involved in ISIS social media activity, including the creation of bots.

Using social network analysis, rather than organic discovery, a significantly higher number of English-language ISIS-supporting accounts were identified, totaling approximately 2,500 accounts for the period ending October 1.

This study was carried out prior to the ISIS terrorist attack in Paris in November 2015. After the attack ISIS social networks were subjected to significantly higher suspension pressure for some weeks, which eased somewhat over time. Based on anecdotal observations and periodic data sampling, post-Paris suspensions were more concentrated in French and Arabic networks. English networks contracted somewhat, but the number of ISIS-supporting accounts tweeting in English was still estimated to be greater than 2,000 as of January 2016.

Basic Metrics

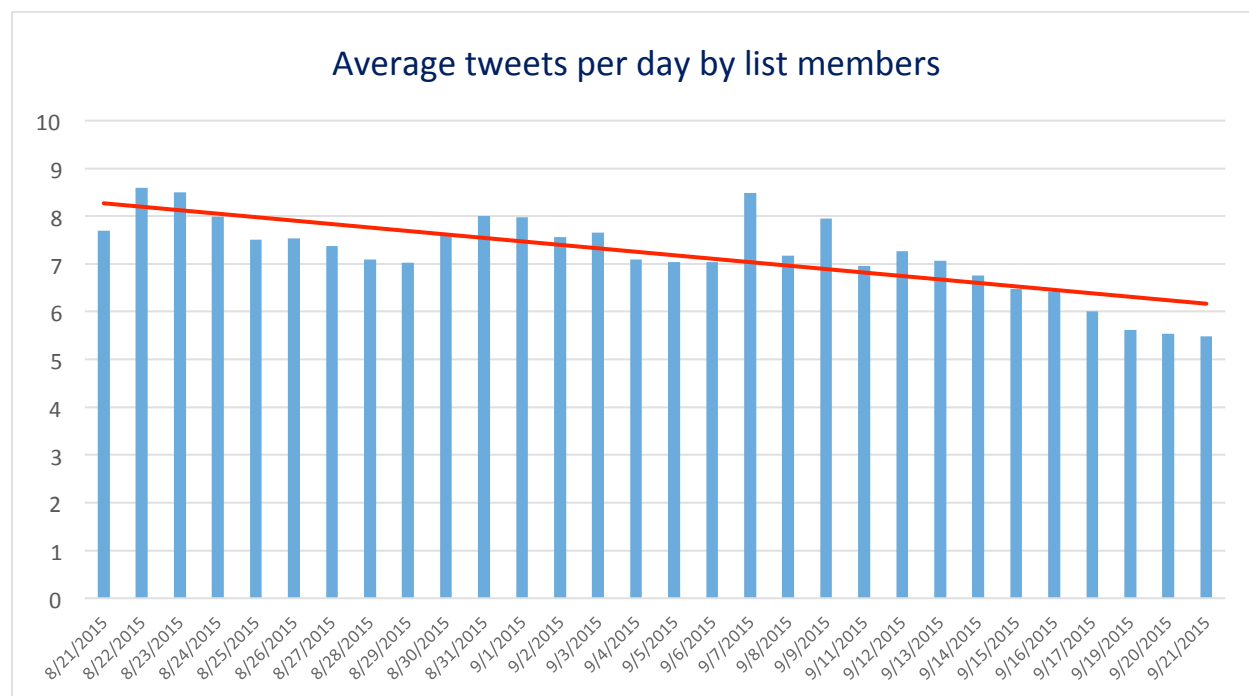


Figure 4. Average tweets per user per day during the 30-day monitoring period

Accounts were monitored sporadically from June to October, with near-daily monitoring from August 21 to September 21. A handful of days were missed because the user maintaining the list was suspended, or for other reasons.

Basic metrics showed a network in which activity was stagnant, or in slight decline. For most metrics, the network remained largely within steady ranges of performance rather than growing, as is more typical of a group of active Twitter users regardless of topic of interest. While some of this limitation might be due to an overall drop in interest or support for ISIS, we believe it is largely attributable to suspensions.

- The average number of followers per user ranged between 327 and 480 over the course of the study. Both the average number of followers and accounts followed by list members declined over time, with followers leveling out around 350 and accounts followed around 260.

- Average tweets per day (over the lifetime of an account) declined during the period monitored, with a peak of approximately 14.5 tweets per day in June, and a low of 5.5 at the end of the study period.
- During the daily monitoring period, tweets per day dropped from a high of approximately 8.6 to a low of about 6.0 on the last day the user updated the list to replace suspended accounts. This drop can largely be attributed to the suspension penalty placed on active users.
- Suspensions within the network fluctuated wildly. However, most suspensions took place at a low level, averaging about 1.8% of the list per day from August 25 to September 21, with higher numbers recorded in June. Suspensions were measured by comparing each day's list to the previous day. During the first few days of daily monitoring, the user manually re-created the list after being suspended each day. From August 25 through September 21, the list was restored in its entirety using an app, producing a result that more directly correlated to suspensions.
- The true number of suspensions was higher than 1.8%, as some accounts being both created and suspended between collection points. Some users who disappeared from the list may have voluntarily terminated their accounts rather than being suspended, but a follow-up examination of a number of removed accounts revealed that this was not a major factor.
- The most influential accounts were also examined, using a previously established methodology based on each account's network relationships and its 200 most recent tweets. The 50 most influential accounts were much more active than the rest of the list, tweeting an average of 44.2 times per day, based on the 200 most recent tweets. The 100 most influential averaged 39.3 tweets per day, while the overall average was 8.9.¹
- The sum of all tweets by listed users ranged between approximately 780,000 to 820,000, remaining mostly flat and declining sporadically as a result of suspensions, which typically delete all content associated with the suspended account. The average number of lifetime tweets per user typically stayed within a range of about 750 to 800.

¹ Influence was measured using a slightly refined version of the metric established in J. M. Berger and Bill Strathearn, "Who Matters Online: Measuring influence, evaluating content and countering violent extremism in online social networks," *International Centre for the Study of Radicalisation and Political Violence*, March 2013. When examining tweets per day, using the most recent 200 tweets tends to produce a higher number than measuring according to the lifetime of the account. The former metric tends to be more representative of typical activity, but taking the measurement requires additional steps.

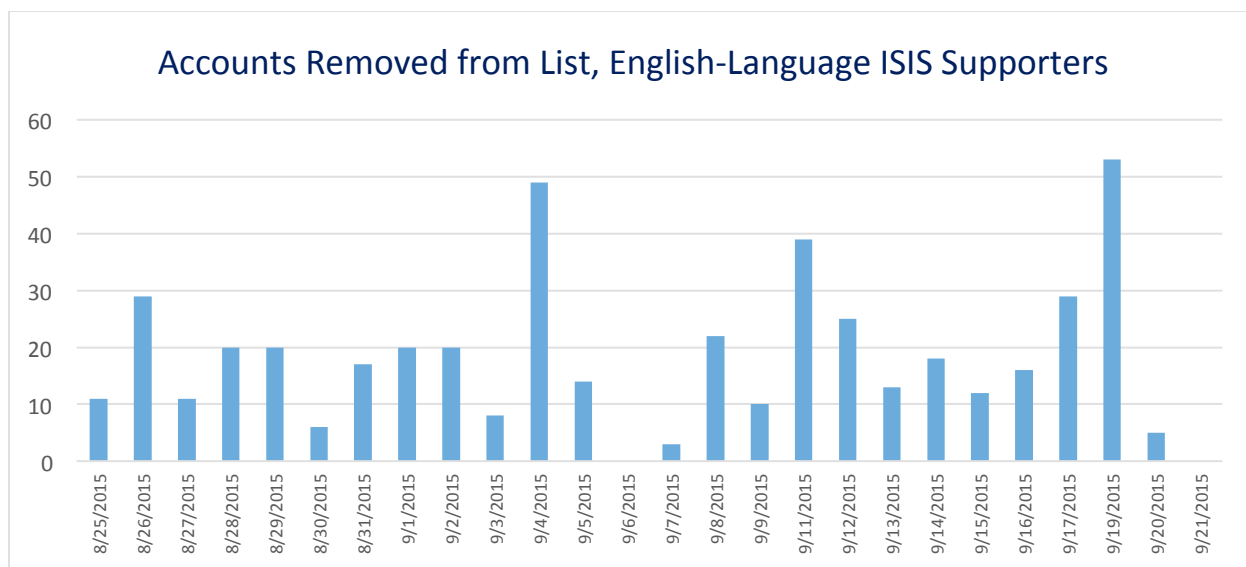


Figure 5. Accounts suspended during the 30-day monitoring period; as discussed below, the list was maintained in a consistent form using an app, starting August 25. Prior to that, the composition of the list varied wildly and the “accounts removed” statistic was less meaningfully correlated to suspensions.

Individual Users

One argument made by some ISIS supporters, as well as some counterterrorism professionals, is that suspending social media users is a futile endeavor because the users will simply create a new account, thus negating the benefit of suspension. To examine this proposition, we looked at the performance of identifiable users who repeatedly created new accounts after being suspended.

We examined four cases in detail—users designated A, B, C, and D—who returned repeatedly under the same display name and with very similar Twitter profile information. These four users had the highest number of user IDs associated with their display names, meaning they were the most often suspended and most likely to return. The charts on the following pages show how these accounts performed over time.

We found suspensions typically had a very significant detrimental effect on these repeat offenders, shrinking both the size of their networks and the pace of their activity. Each user had a different trajectory, with some recovering more robustly than others, but all showed consistent declines over the monitored period.

The fact that suspensions reduce key metrics in the period immediately following suspension is not surprising in itself, but we found that the depressive effects of suspension often continued even after an account returned and was not immediately re-suspended. Returning accounts rarely reached their previous heights, even when the pressure of suspension was removed. Users B and C, for example, returned from suspension and then remained online for several consecutive days without approaching their earlier levels of performance.

The decline in metrics after repeated suspension has a number of possible explanations, one of which is a reflection of discouragement on the part of returning users or those who follow the repeatedly suspended users. Declines may also reflect modified behavior by the returnee to avoid suspension, but this is functionally the same result – reduced performance.

The first four charts following this page illustrate individual user trajectories, while the four after that break down each user's specific accounts. Each user examined maintained multiple accounts concurrently for at least part of the study, a strategy that did not appear to insulate them from the detrimental effects of suspension.

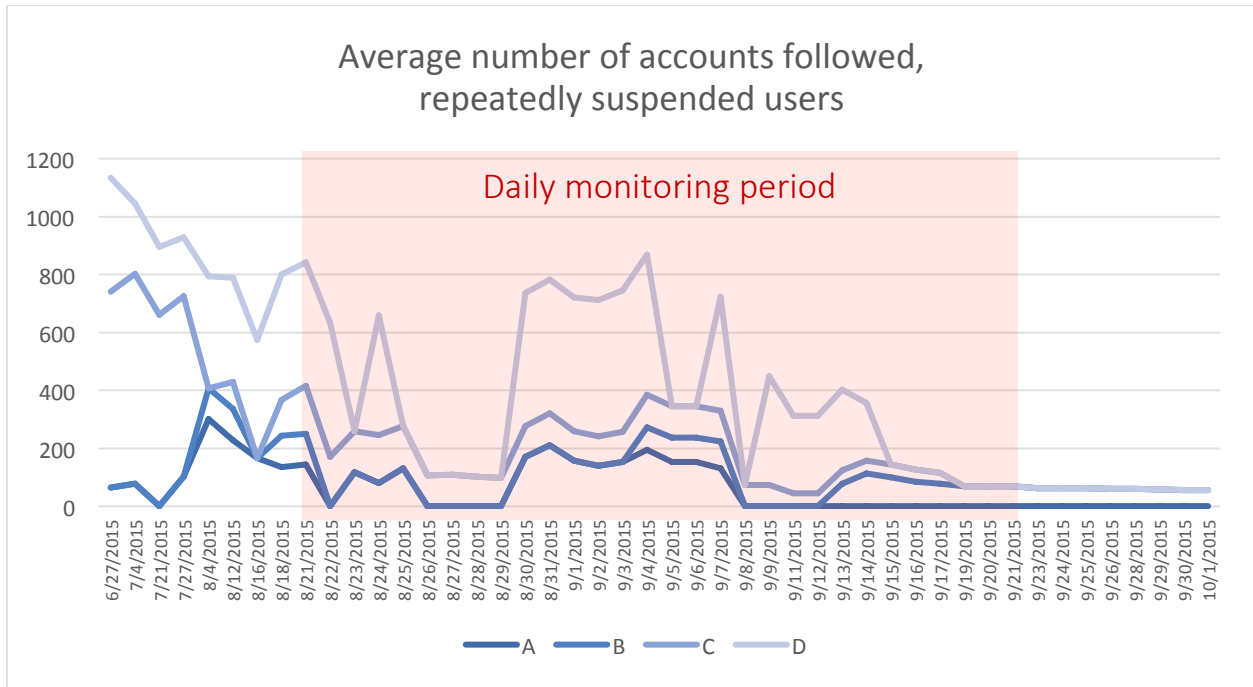


Figure 6. Average number of accounts followed by four repeatedly suspended users (A, B, C, and D) using the sum of all accounts followed for multiple accounts by the same user

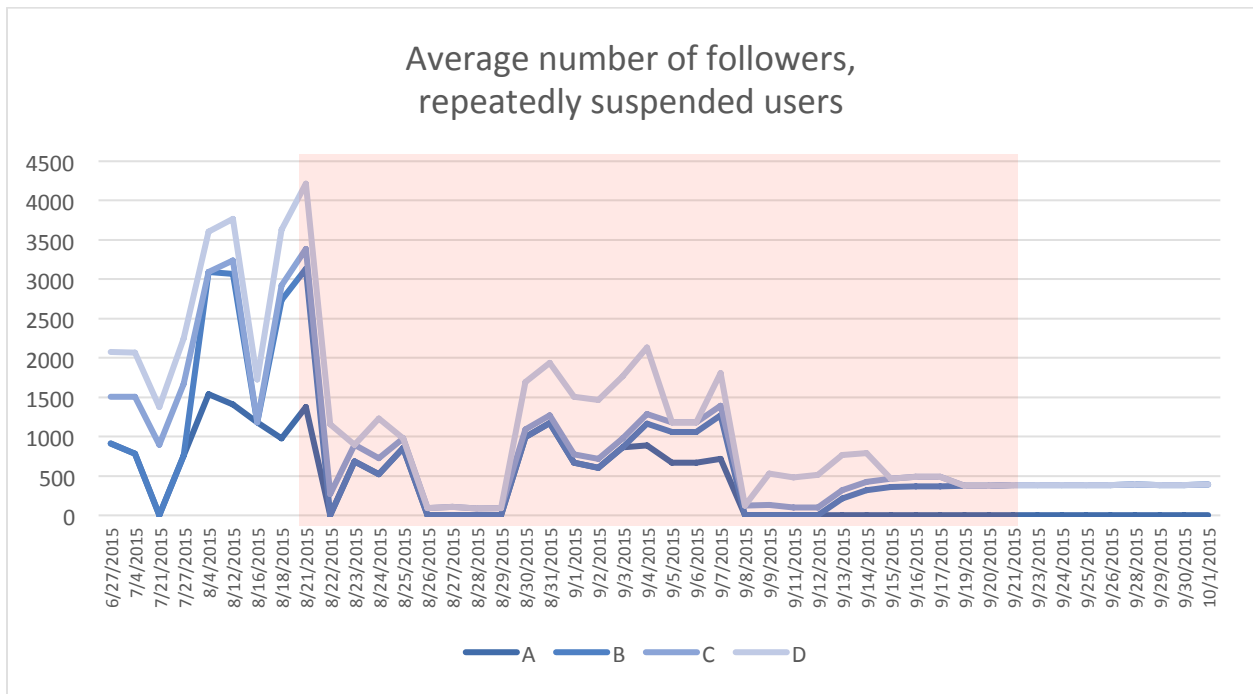


Figure 7. Average number of followers for four repeatedly suspended users (A, B, C, and D) using the sum of all followers for multiple accounts by the same users

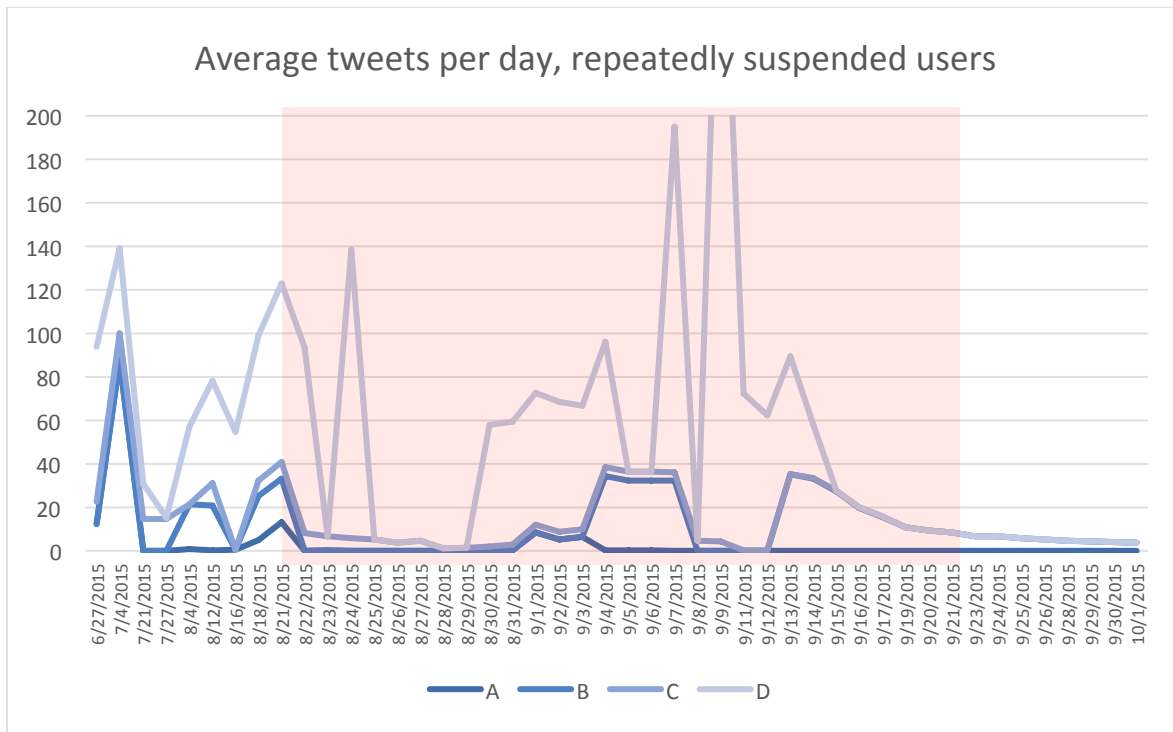


Figure 8. Average tweets per day for four repeatedly suspended users using multiple accounts

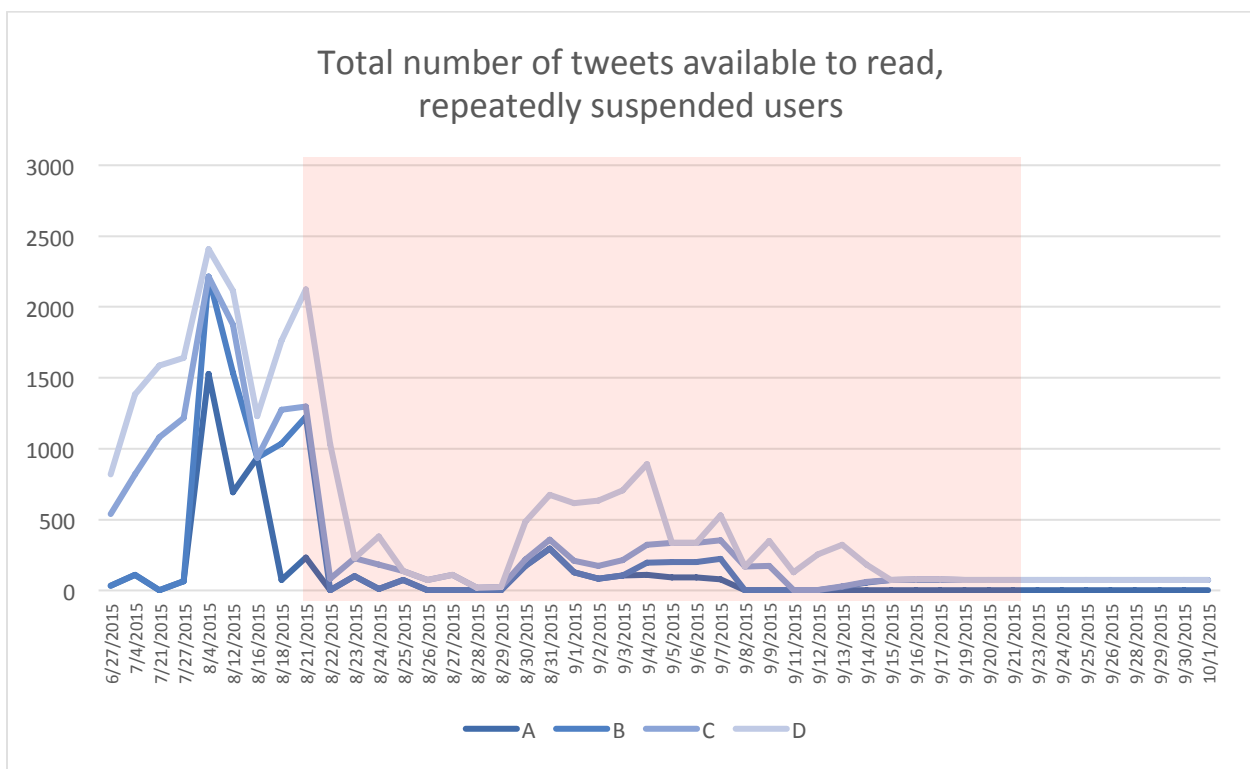


Figure 9. Total number of tweets available for four repeatedly suspended users using multiple accounts

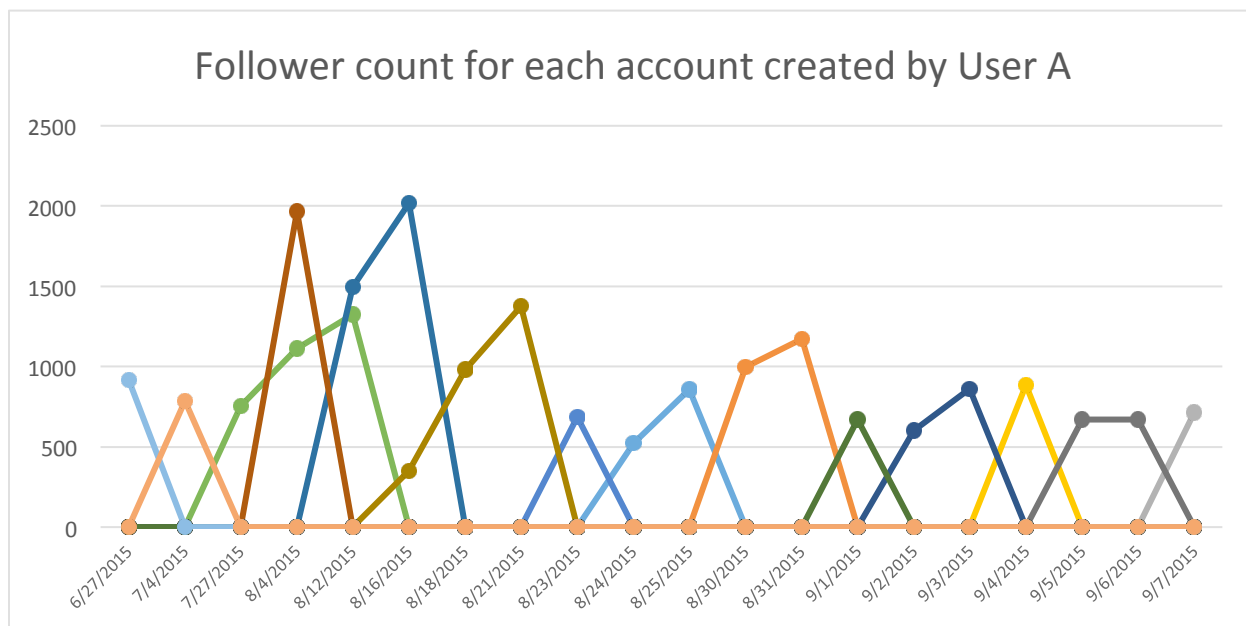


Figure 10. Follower count for repeatedly suspended user A

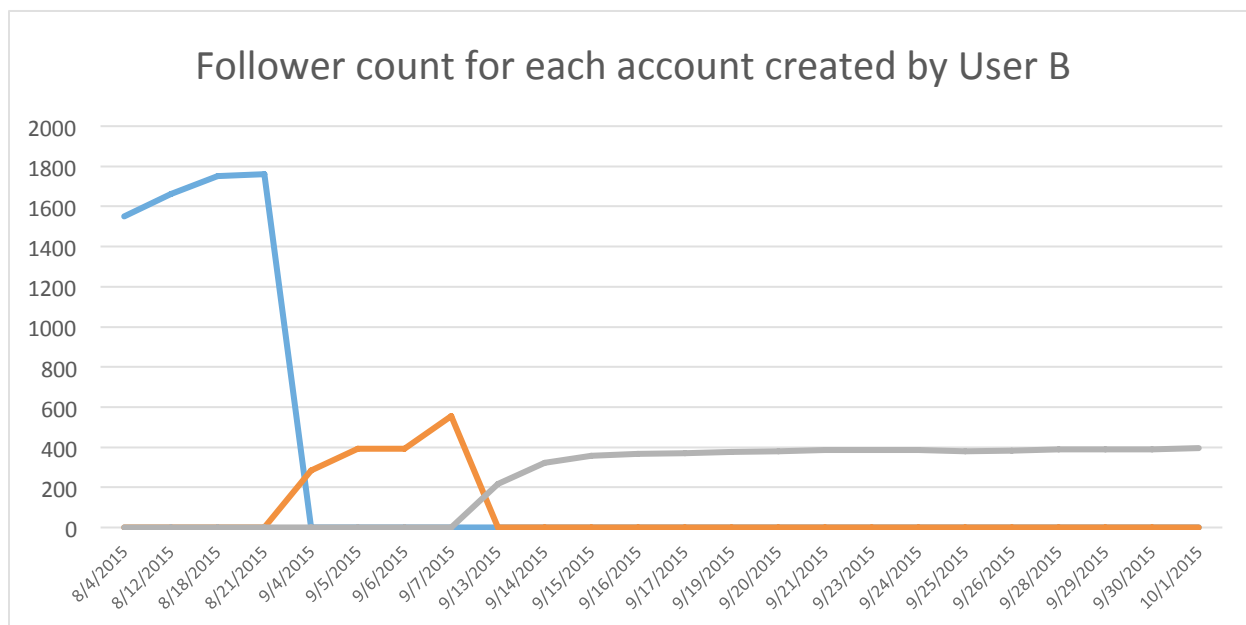


Figure 11. Follower count for repeatedly suspended user B

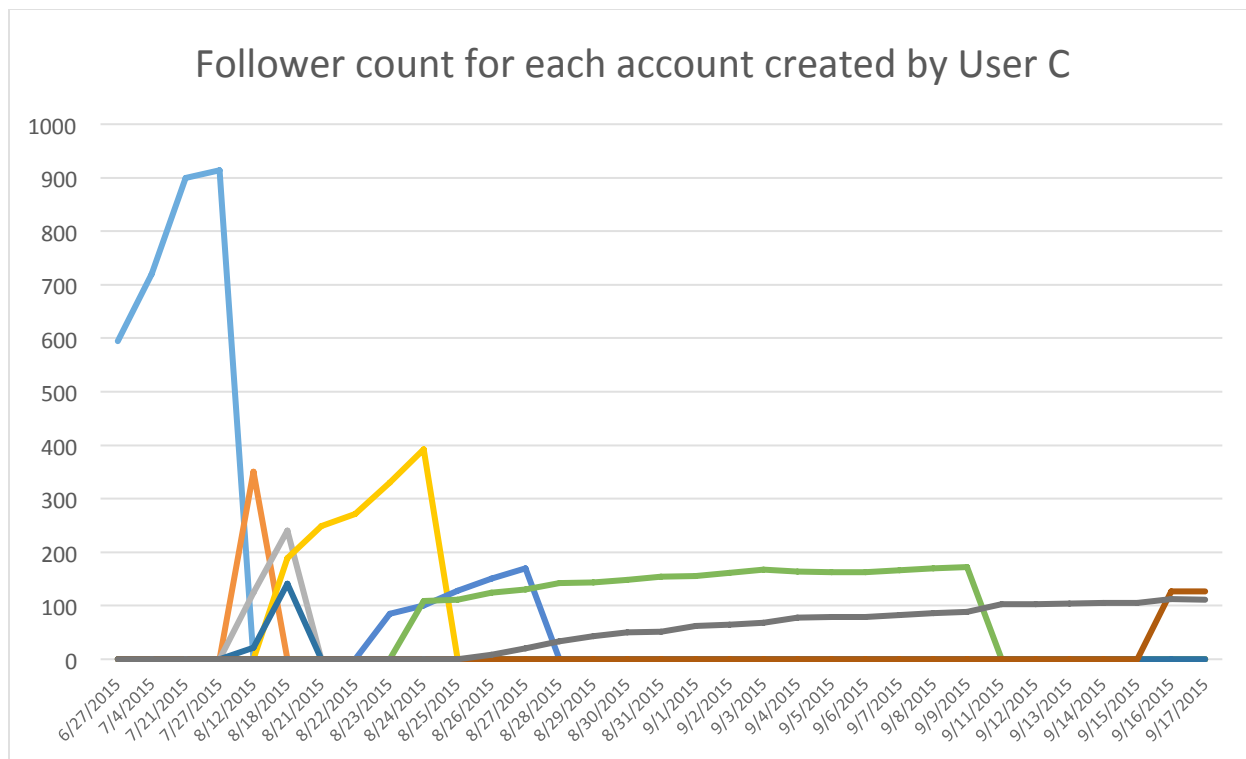


Figure 12. Follower count for repeatedly suspended user C

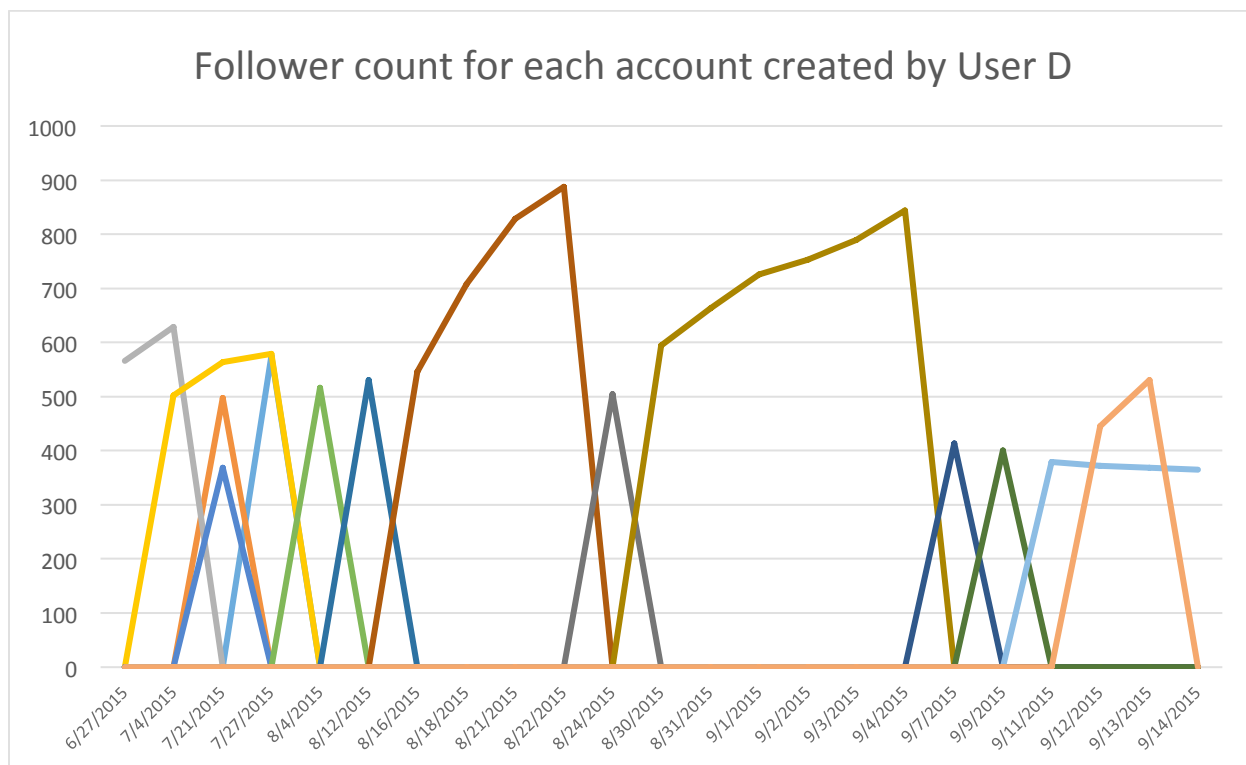


Figure 13. Follower count for repeatedly suspended user D

Countermeasures on Twitter

ISIS supporters have adopted several countermeasures to try to compensate for the repeated suspension of their accounts. These include methods to make it easier to generate new accounts and ways to find other suspended users.

The Baqiya Shoutout account list is itself one such countermeasure. Most countermeasures are directed toward maintaining a presence on Twitter, which continues to be ISIS supporters' preferred social media platform. Some activity, however, has shifted to other platforms, such as Telegram. At present, these other platforms are used primarily as backups for Twitter.

Observed countermeasures appeared to be only partially effective. Although most served the intended purpose of allowing ISIS supporters to quickly re-establish their individual accounts, rebuilding networks has proven more difficult, as suggested by the metrics in the previous section.

Reverse Shoutouts

Through its various iterations, the Baqiya Shoutout account has assisted ISIS supporters in re-establishing their accounts after suspension.

One document, attributed to the Baqiya Shoutout user, provided step-by-step instructions for what was described as a "reverse shoutout," essentially steps to encourage other users to share information about a new account.² Baqiya Shoutout explained that the focus should not be on how easily individual users come back with a new account, but on how efficiently they are able to re-establish their network of followers. Within the document:

- Users were told to use a disposable email to create their new account.
- Users were told to try not to follow random suggested accounts provided by Twitter, as following these suggestions could provide clues to their location.
- Users were told to follow trusted accounts with a large number of followers and accounts specifically devoted to shoutouts. A significant number of bots have been observed providing automated shoutouts in Arabic, but these were less prevalent in English.

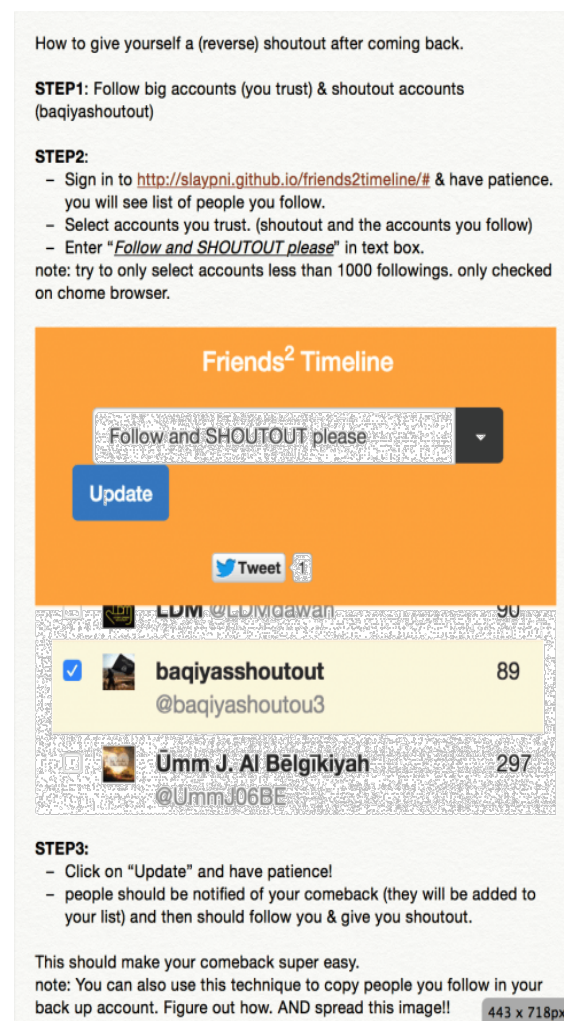


Figure 14. Instructions for reverse shoutouts

² <https://justpaste.it/comeback>

- A Twitter app called Friends²Timeline was recommended. The app allows users to add their friends, and friends of their friends, to Twitter lists. Users were told to create a public list titled “Follow and Shoutout please.” Listed users would receive a notification, allowing them to follow the first user back.

As of January 2016, the Reverse Shoutout approach is still employed by ISIS supporters, but its effectiveness has diminished, in part due to the complexity of the process and the fact that users identifying themselves on Twitter with the phrase Baqiya Shoutout or Baqiya Family are now swiftly targeted by anti-ISIS activists.

Ghanima Accounts



Figure 15. Accounts identified as using the ghanima method

In mid-2015, English-speaking ISIS supporters began circulating guides on how to hack and assume control of *kuffar* (Arabic for “unbeliever”) accounts on Twitter, usually those abandoned by their previous owners.

ISIS supporters identified these accounts as *ghanima* (Arabic for “spoils of war”). The guides provide instructions for identifying existing Twitter accounts that had been created using temporary email generators, such as mailinator.com, and how to exploit this to reset the password. Users are then instructed to log in with the new password and change the account’s Twitter username and email address.

An ISIS supporter using this method would typically identify the account as a *ghanima*, or hacked, account in his or her profile or in a tweet.

Most *ghanima* users delete the hijacked accounts’ existing tweets and followers. However, some left the previous content in place, on the assumption that this appropriated history might provide some protection against suspension. Based on our observations, this was not the case.

At the time of publication, *ghanima* accounts continue to be utilized by ISIS supporters in the Baqiya Shoutout network.

Donated Accounts

Another method for quickly returning from suspension is the use of donated accounts. Some ISIS supporters create Twitter accounts in bulk and supply them to other supporters upon request. Donated accounts are created using various methods, such as manually creating multiple new accounts or sharing *ghanima* accounts. Some ISIS supporters have developed apps that permit them to create accounts in large quantities. Donated accounts are typically used by more prominent individuals within the Baqiya Shoutout network who are subjected to repeated suspensions.

Twitter user “ENG ISIS,” who claims to be a hacker, is one of the main sources of donated accounts. In late September, ENG ISIS claimed to have access to over 52,000 Twitter accounts that were obtained through a server application referred to as “Al-Fateh” or “Alfatih.” After experiencing some technical issues resulting from updates to Twitter’s API,³ the, Al-Fateh is now allegedly fully functional. According to a December post by the Caliphate Cyber Army (CCA) in its Telegram chat group:

Great news for our brothers and sisters AlAnsar. As you know Alfatih server run into some technical issues because of the twitter updates and now it came back fully functional to provide twitter accounts for AlAnsar (supporters of the Caliphate). Please don’t feel shy to ask the Caliphate Engineer #CCA leader (ENG ISIS).



Figure 16. Twitter posts regarding donated accounts and the Al-Fateh Twitter app for bulk creation of accounts

Virtual Private Networks (VPNs)

Twitter users within the Baqiya Shoutout network have encouraged the use of VPNs to create new Twitter accounts without having to verify an email address or phone number. This method was suggested by prominent ISIS supporters on Twitter, including Baqiya Shoutout, in both Arabic and English how-to guides.

Previously, Twitter users who created accounts from outside of the United States were permitted to do so without providing a verified email or phone number. ISIS supporters were instructed to download Hola VPN or a similar program for use from a mobile device or Web browser. Once

³ The Application Programming Interface is the back-end through which users who create their own apps can interact with Twitter’s infrastructure.

installed, users could select an IP address for a country outside the U.S. and thus bypass email or phone verification.

Our effort to re-create this approach in January 2016 found that Twitter now requires a verified email or phone number when logging in from outside the United States, so the technique no longer appears to be an effective countermeasure.

Alternative Platforms

Telegram Messenger



Figure 17. Telegram home page and a channel used by ISIS

In recent months, Telegram Messenger has emerged as a favored alternative to Twitter for the initial publication and dissemination of official Islamic State propaganda.

The shift to Telegram was due in part to a new feature introduced in September called “Channels,” allowing users to broadcast messages to an unlimited number of followers. Within four days of Telegram’s announcement of this feature, the Islamic State launched an Arabic-language channel to distribute its official media releases.

In the weeks following the launch of its Arabic channel, the Islamic State announced official Telegram channels in English, French, German, Indonesian, Bosnian, Bengali, Turkish, Kurdish, Urdu, Swedish, and Russian. These official channels have been used as the initial point of distribution for propaganda releases. Once released on Telegram, links to the propaganda content are subsequently distributed on Twitter.

The Islamic State’s presence on Telegram received extensive media coverage following the use of its official Arabic-language channel to claim credit for the November 2015 attacks in Paris. In response, Telegram administrators released a statement advising that they were reviewing all reports regarding public Telegram broadcast channels being used by the Islamic State. Within the first few days of its review, Telegram blocked 78 Islamic State-related channels across 12 languages, followed by additional suspensions.⁴ Telegram informed users that the company does not intercept private communications and that only public channels were being blocked.⁵

⁴ Jordan Novet, “Telegram cracked down on 78 ISIS-related channels in 12 languages this week,” *VentureBeat*, November 18, 2015.

⁵ Telegram post, “Telegram News,” November 18, 2015, 2:37 p.m. Eastern Standard Time.

At the time Telegram began blocking Islamic State accounts, the official Arabic channel had over 16,000 followers and the official and primary unofficial English channels had 2,021 and 3,018 followers respectively. There was likely overlap among all three sets of users.

As a result of their public channels being blocked, ISIS Telegram users began to create new, public Telegram channels in conjunction with chat groups. Unlike the public broadcast channels, where content can be viewed regardless of whether a user follows the account, users must “join” the chat groups in order to view content. The chat group names are not searchable, and Telegram users must be provided with the specific URL to access the group.

Chat groups are limited to 200 members, so ISIS supporters have also started using Telegram “supergroups,” which allow for up to 1,000 members and offer more robust administrative features, similar to a message board. Supergroups have also more effectively evaded suspension than public channels, due in part to the fact that they are harder to detect. Administrators of ISIS-supporting Telegram groups and channels insulate some activities by asking that links to groups and channels be confined to Telegram and not circulated on Facebook or Twitter.

Many pro-ISIS Twitter users within the Baqiya Shoutout network, such as CCA, have created Telegram channels that primarily serve as a backup for their Twitter accounts. Others have transitioned almost exclusively to Telegram due to their repeated suspensions on Twitter.

Much of the observed activity of ISIS supporters on Telegram mirrors that seen on Twitter. Public channels and chat groups are used for official propaganda distribution, shoutouts for new Telegram and Twitter accounts, recruitment efforts, advice on emigrating to Islamic State territories, operational security guidance, and so forth.

Although Telegram has become a popular alternative to Twitter, ISIS supporters are still being encouraged to return to Twitter and increase their efforts. According to one Telegram post in English:

Telegram is not a media platform for dawa [proselytizing] to all Muslims and the West. No one will enter your channel except the Ansar [ISIS supporters] who already know the truth. Or your enemies to report you. Rarely would you find someone from general public following you. That’s why our main platform is [w]here the General Public is found. Like on Twitter and Facebook. We are here for Dawa. Not to entertain each other and talk to each other...Let Telegram be like an archive.

Ansar AlKhelafa Europe

Facing suspension pressure, some users have also returned to the old message board format that was the prevailing method for online interactions by jihadists prior to 2012.

In late December 2015, administrators for the Ansar al-Mujahideen [English] message board announced the opening of the Ansar Alkhelafa Europe forum. The statement was circulated as a text document on Telegram, Twitter, and Justpaste.it, along with a corresponding statement

posted to the original Ansar al-Mujahideen English Forum website.⁶

The statement indicates that the Alkhelafa forum was developed as an “urgent and immediate [...] counter offensive” against attempts by the West to disrupt the Islamic State’s propaganda efforts on social media:

The western hostile and unreliable media machine has been deliberately sabotaging and excluding our brothers and sisters among the Ansar al-Dawlah [supporters of the Islamic State] to proclaim our message and to strengthen our ranks.

Therefore, "bi'awni Allah" we have been able to set up a new site with numerous extra features which actively contribute to this more dynamic and effective tool as it is also more in line with the needs of our new generations who today, as proven in Sham [Syria], retain the front-lines of our Khilafah and its existence.

The official announcement for the Alkhelfa forum was released on December 21, however, the forum itself went online several months before to its announcement so discussion threads could be preloaded. Prior to the announcement, the forum had 95 members. As of January 11, it had added only seven more. As of February 2016, the forum appeared to be offline.



Retrieved January 11, 2016

Figure 18. The website logo and published statistics for the AlKhelafa forum

⁶ <http://justpaste.it/alkhelafaeu>